

BookletChart™

Cape Hatteras to Charleston

NOAA Chart 11520

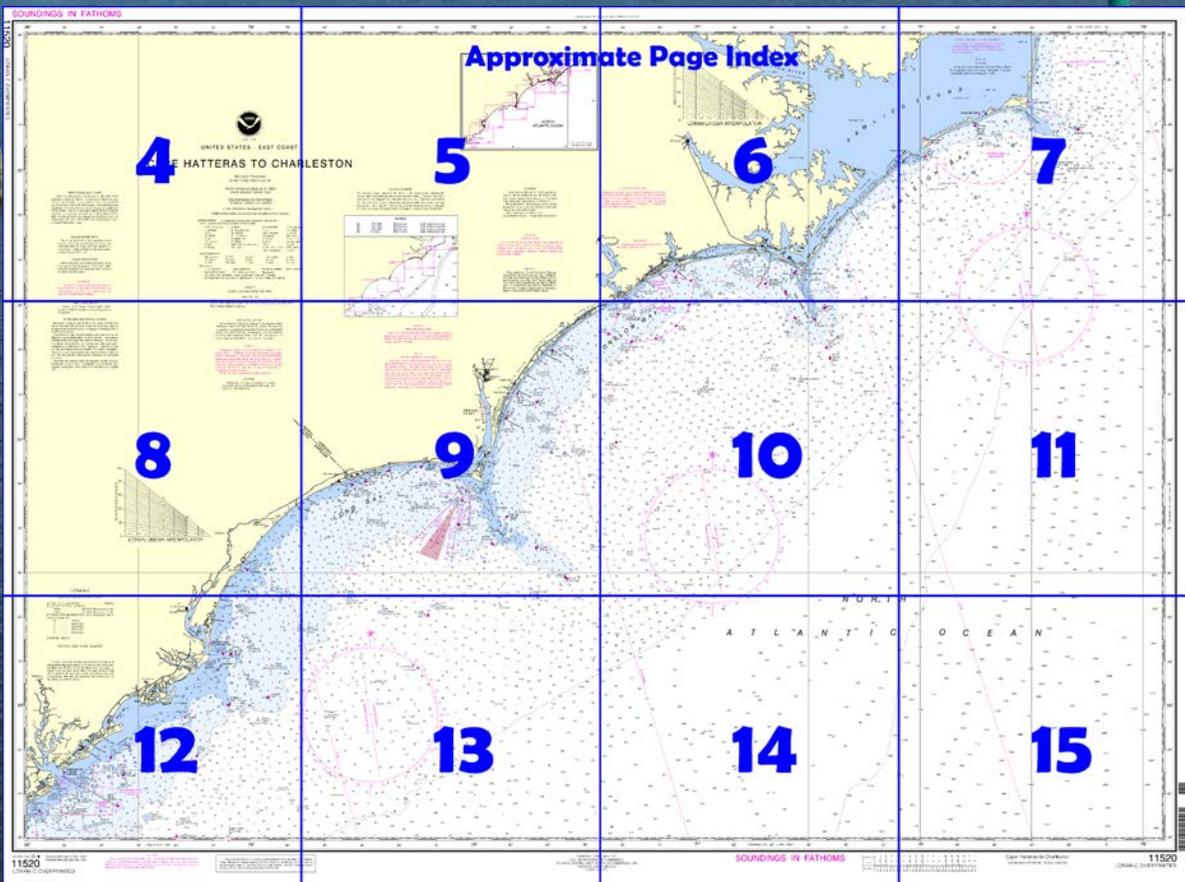


A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



**Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA**

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

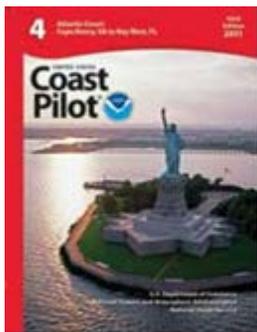
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=11520>



(Selected Excerpts from Coast Pilot)

This chapter describes Virginia and North Carolina coastline between Cape Henry and Cape Lookout, known as The **Outer Banks**, and the sounds and tributary waters behind the banks through which the Intracoastal Waterway passes. The Outer Banks, a line of long, low, and narrow islands, include the Portsmouth Islands, the uninhabited Core Banks, and Bodie, Hatteras, and Ocracoke Islands, parts of which comprise the Cape Hatteras National Seashore.

There are no deepwater ports along this stretch of the coast. Oregon, Hatteras, and Ocracoke Inlets provide the main entrances to the shallow, sandy-bottom waters behind The Outer Banks.

Weather.—This stretch of coast is subject to strong winds and rough seas from both tropical and extratropical storms and occasionally to dense, spring, sea fog which hugs coastal routes landward of the Gulf Stream. Rough weather and numerous shoals have combined to give the seas off the Outer Banks the reputation of “Graveyard of the Atlantic.” Winter provides the greatest likelihood of rough weather, due to the frequent extratropical storms. Fueled by the Gulf Stream, about 3 to 6 storms per month affect these waters. Their movement is toward the northeast or east at 25 to 30 knots. Not all of these systems are severe weather producers, but, in winter, gales blow about 5 percent of the time near Diamond Shoals and up to 10 percent to the east and northeast. From December through March, seas of 8 feet or more are encountered about 20 to 25 percent of the time near Diamond Shoals and even more often to the east. Maximum wave heights have been estimated at more than 40 feet. Steep waves of 5 feet or more with periods of less than 6 seconds are uncommon. However, those of 5 feet or more with 6- to 9-second periods occur about 30 percent of the time creating problems for vessels in the 100- to 400-foot range. Winter storms also produce rain and snow which can hamper visibility along the routes through this region. Visibilities drop below 0.5 mile less than 3 percent of the time, except in late winter and spring.

Location of the Gulf Stream.—Up-to-date information on the location, width, and maximum surface temperature of the Gulf Stream System is available in a variety of ways. Such information is broadcast by NOAA Weather Radio stations from Key West, Florida, to Cape Hatteras, North Carolina.

Extratropical Cyclones.—One of the more frequent weather features the mariner encounters along the coast is the winter storm or “Nor'easter.” These extratropical systems can develop in any month. Their size can vary from an insignificant wave along a front to a gigantic circulation that covers most of the western North Atlantic. Winds can reach hurricane force and seas of 40 feet (12 m) and more have been encountered. While these storms are usually well forecasted they can develop or deepen explosively, particularly off Cape Hatteras, over the Gulf Stream, giving rise to the term “Hatteras Storms.” These winter storms, present in all months, are most frequent and intense from November through March. December, January and February are the heart of the season, when an average of four to six storms per month roam these waters.

Tropical Cyclones.—A tropical cyclone is a warm core, low pressure system that develops over tropical oceans. It exhibits a rotary, counterclockwise circulation in the Northern Hemisphere around a center or “eye.” In small tropical cyclones the diameter of the area of destructive winds may not exceed 25 miles (46 km) while in the greatest storms the diameter may reach 500 miles (925 km). At the center is a comparatively calm, sometimes clear, area known as the eye. The diameter of the eye can vary from about 5 to 25 miles (9 to 46 km). Winds are usually strongest near the center. They can reach 175 knots or more in an intense hurricane. (See **Coast Pilot 4, Chapter 3** for an extensive discussion of Tropical Cyclones, Tropical Cyclone Climatology, Hurricane Warning and Forecasts, Hurricane Havens, Tropical Cyclones at Sea, Maneuvering for a Tropical Cyclone.)

**U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies**

RCC Miami Commander
7th CG District (305) 415-6800
Miami, FL

Navigation Managers Area of Responsibility



NOAA's navigation managers serve as ambassadors to the maritime community.

They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit nauticalcharts.noaa.gov/service/navmanagers

To make suggestions or ask questions online, go to nauticalcharts.noaa.gov/inquiry.

To report a chart discrepancy, please use ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx.

Lateral System As Seen Entering From Seaward

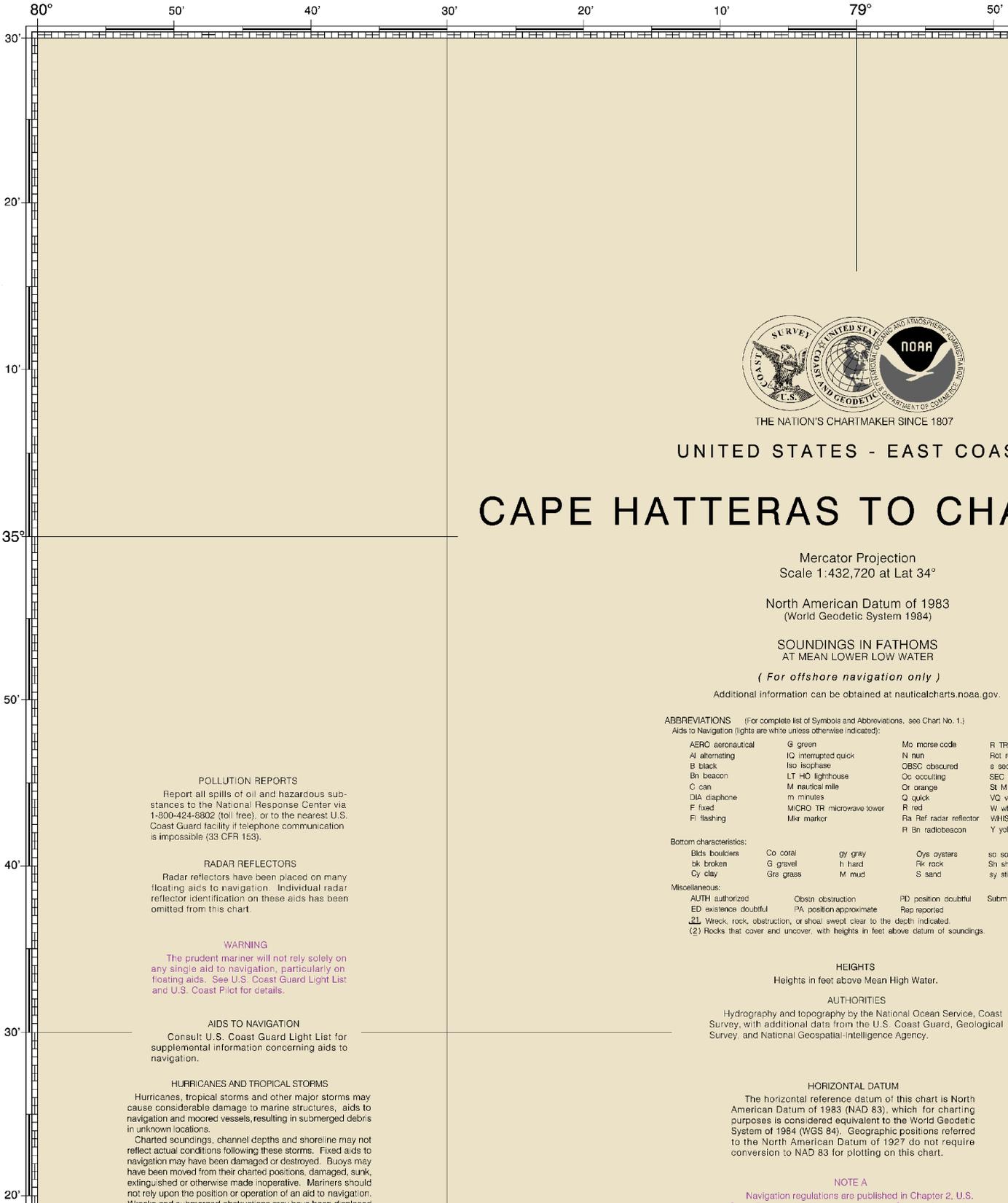
on navigable waters except Western Rivers



For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at <http://www.navcen.uscg.gov>

SOUNDINGS IN FATHOMS

11520



THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - EAST COAST

CAPE HATTERAS TO CHAR

Mercator Projection
Scale 1:432,720 at Lat 34°

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

(For offshore navigation only)

Additional information can be obtained at nauticalcharts.noaa.gov.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rct rotating
B black	Isa isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistling
		Ri Rn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Gr grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obsn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

⚓ Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-9302 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

HURRICANES AND TROPICAL STORMS
Hurricanes, tropical storms and other major storms may cause considerable damage to marine structures, aids to navigation and moored vessels, resulting in submerged debris in unknown locations.
Charted soundings, channel depths and shoreline may not reflect actual conditions following these storms. Fixed aids to navigation may have been damaged or destroyed. Buoys may have been moved from their charted positions, damaged, sunk, extinguished or otherwise made inoperative. Mariners should not rely upon the position or operation of an aid to navigation. Wrecks and submerged obstructions may have been displaced from charted locations. Pipelines may have become uncovered or moved.
Mariners are urged to exercise extreme caution and are requested to report aids to navigation discrepancies and hazards to navigation to the nearest United States Coast Guard

HEIGHTS
Heights in feet above Mean High Water.

AUTHORITIES
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the U.S. Coast Guard, Geological Survey, and National Geospatial-Intelligence Agency.

HORIZONTAL DATUM
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

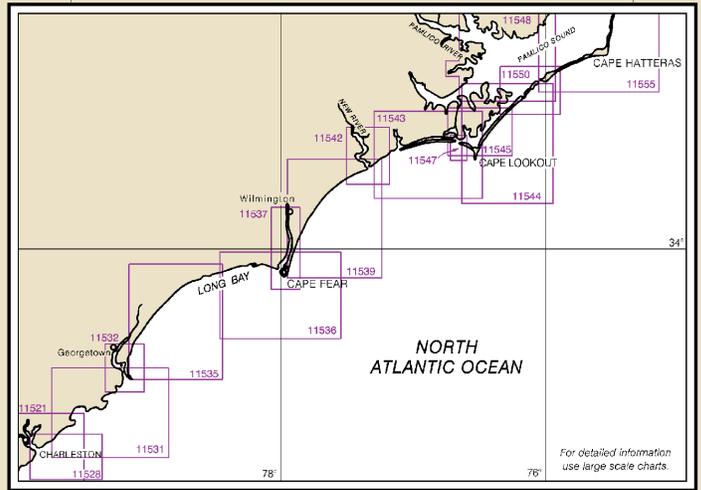
NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 4. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, Virginia and the 7th Coast Guard District in Miami, Florida, or at the Office of the District Engineer, Corps of Engineers in

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Note: Chart grid lines are aligned with true north.

40' 30' 20' 10' 78° 50' 40' 30'



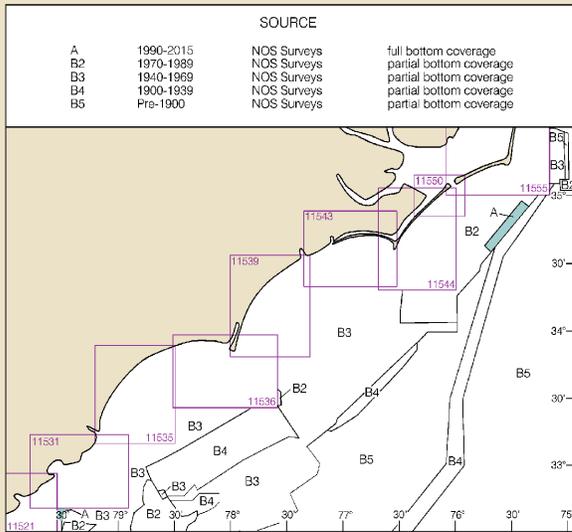
CHARLESTON

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Consult larger scale charts for survey information in areas outlined in magenta. Refer to Chapter 1, United States Coast Pilot.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117. Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution. Station positions are shown thus:
 ○ (Accurate location) ◐ (Approximate location)



**NOTE B
DANGER AREA**

Area is open to unrestricted surface navigation but all vessels are cautioned, neither to anchor (except as shown) dredge, trawl, lay cables, bottom, nor conduct any other similar type of operation, because of residual danger from mines on the bottom.

NOTE S

Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices. Dumping subsequent to the survey dates may have reduced the depths shown.

**NOTE D
PRECAUTIONARY AREA**

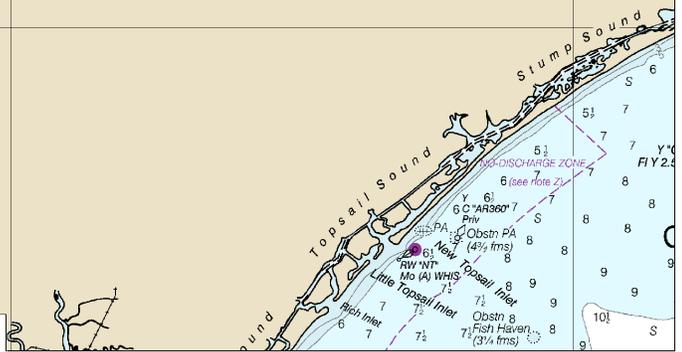
Traffic within the Precautionary Area may consist of vessels operating between Cape Fear River and one of the established traffic lanes. Mariners are advised to exercise extreme care in navigating within this area.

**NOTE E
TRAFFIC SEPARATION SCHEME**

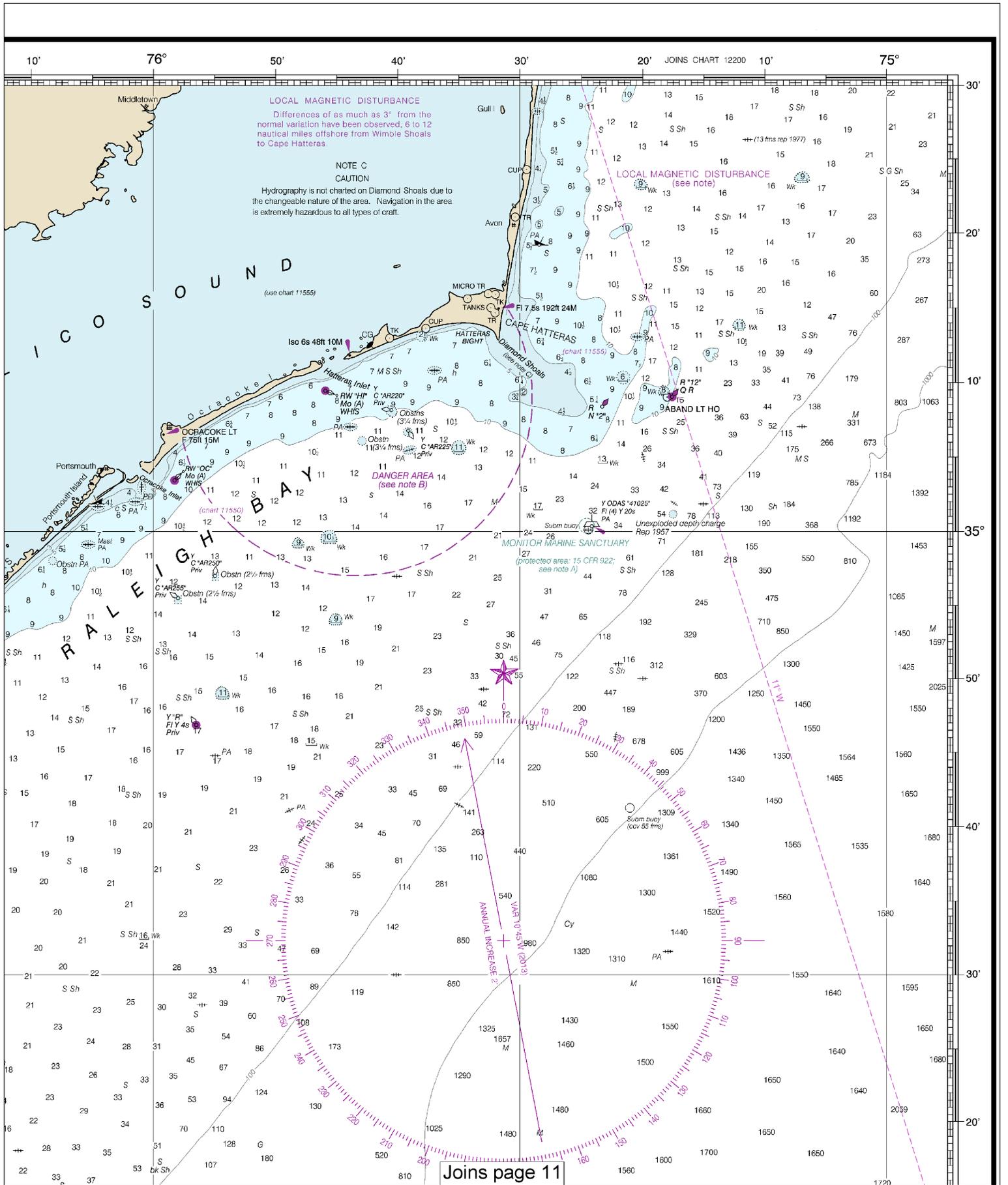
One-way traffic lanes overprinted on this chart are RECOMMENDED for use by all vessels that the points involved. They have been designed in accordance with the provisions of the International Regulations for Preventing Collisions at Sea.

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This BookletChart was reduced to 70% of the original chart scale. The new scale is 1:618171. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.



Last Correction: 6/10/2016. Cleared through:
 LNM: 2716 (7/5/2016), NM: 2716 (7/2/2016)



omitted from this chart

Joins page 4

ED existence doubtful PA position approximate Rep reported
(1) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

HURRICANES AND TROPICAL STORMS

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Mariners are urged to exercise extreme caution and are requested to report aids to navigation discrepancies and hazards to navigation to the nearest United States Coast Guard unit.

NOTE Z

NO-DISCHARGE ZONE, 40 CFR 140

Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/.

HEIGHTS

Heights in feet above Mean High Water.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the U.S. Coast Guard, Geological Survey, and National Geospatial-Intelligence Agency.

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CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

30'

20'

10'

34°

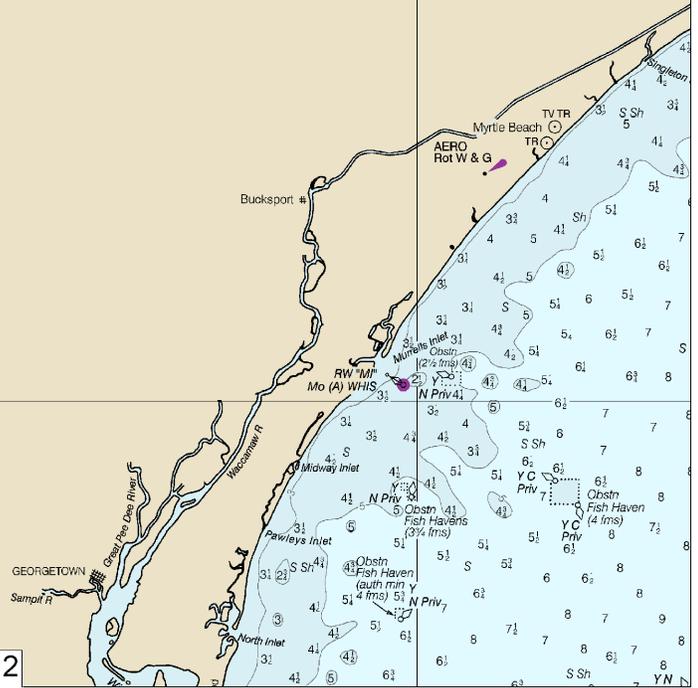
50'

40'

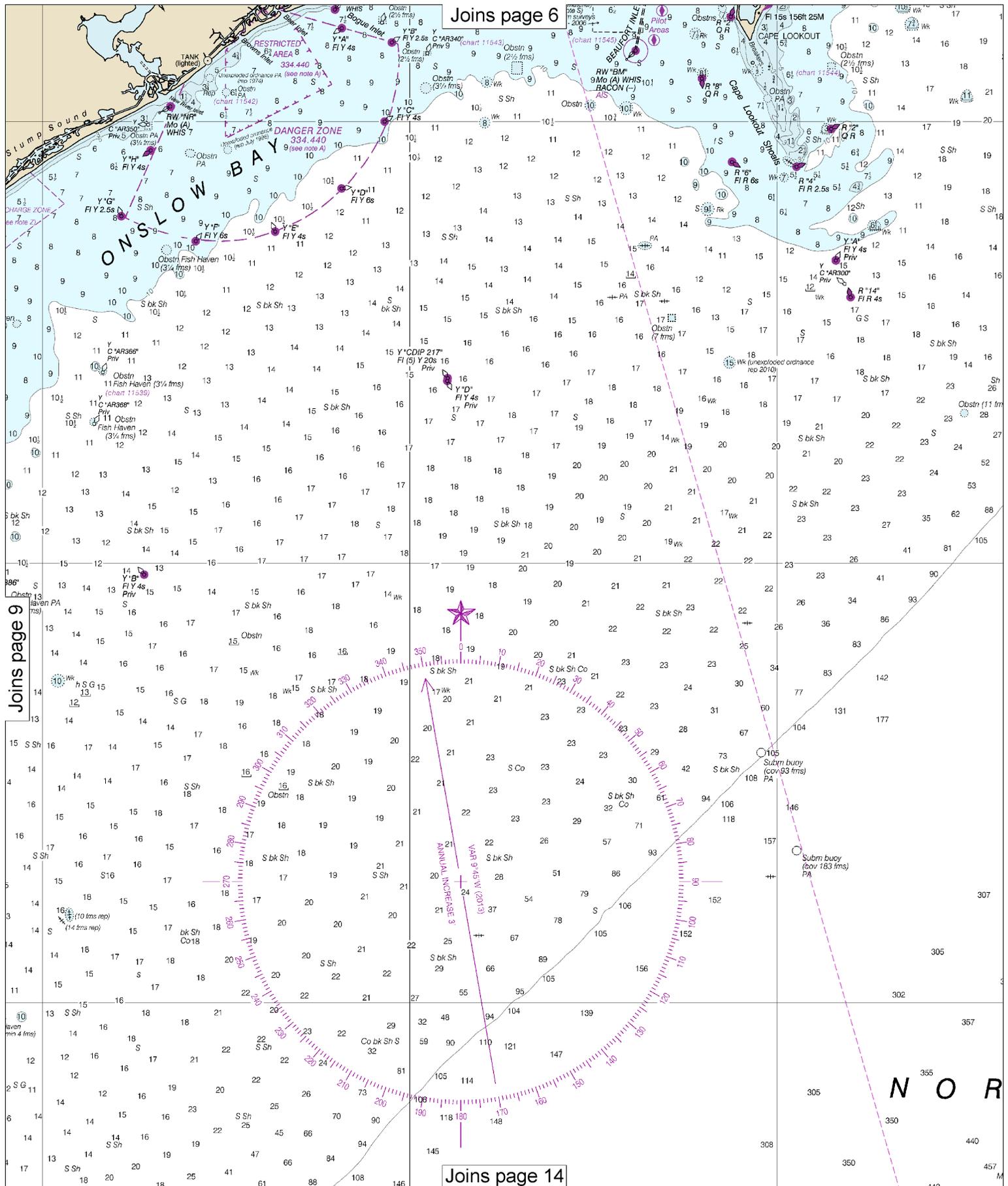
30'

20'

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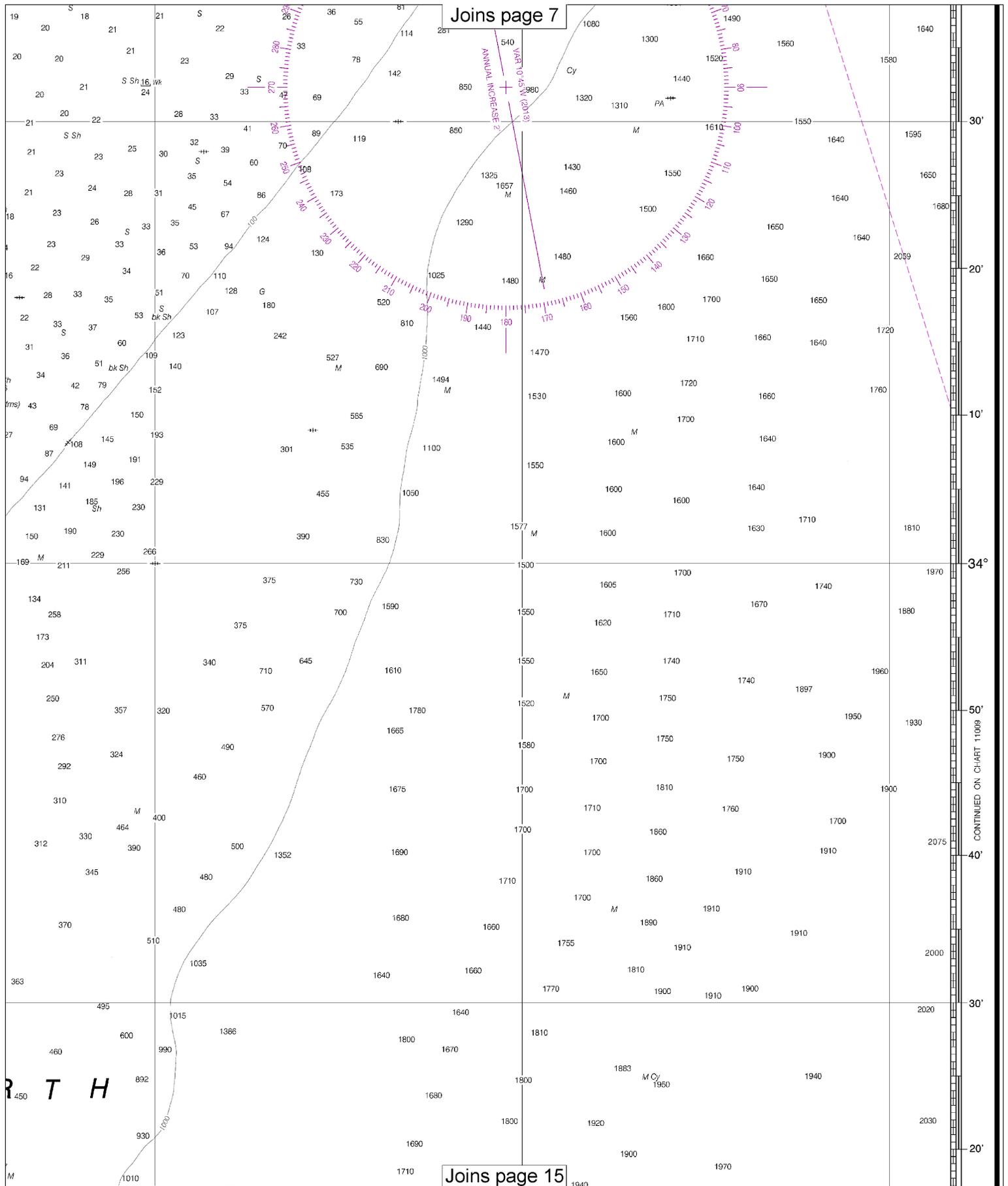
Note: Chart grid lines are aligned with true north.



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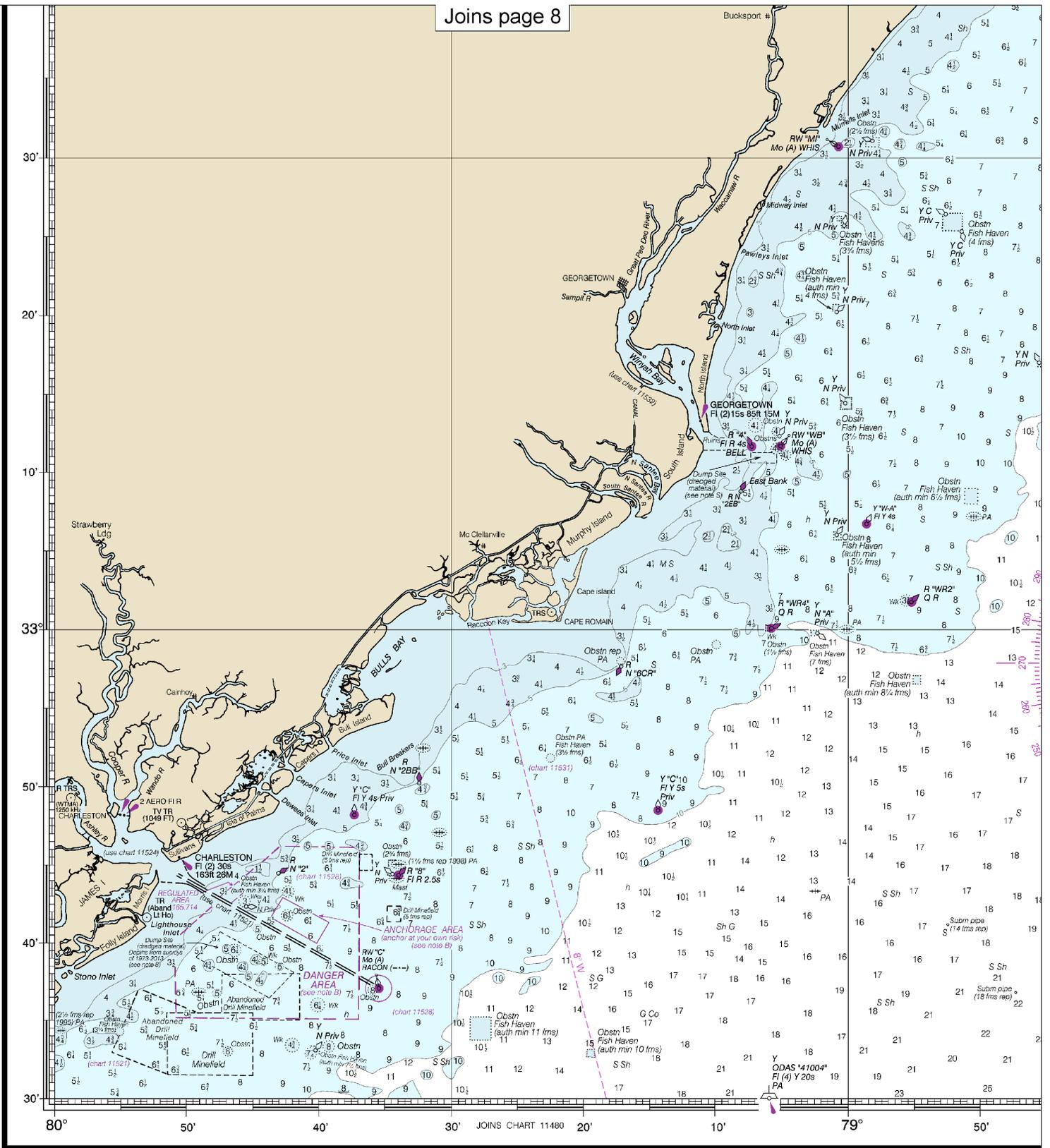
Note: Chart grid lines are aligned with true north.

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CONTINUED ON CHART 11009



45th Ed., Sep. 2013

11520

Last Correction: 6/10/2016. Cleared through:
LNM: 2716 (7/5/2016), NM: 2716 (7/2/2016)

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

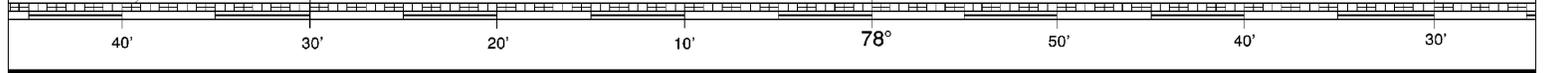
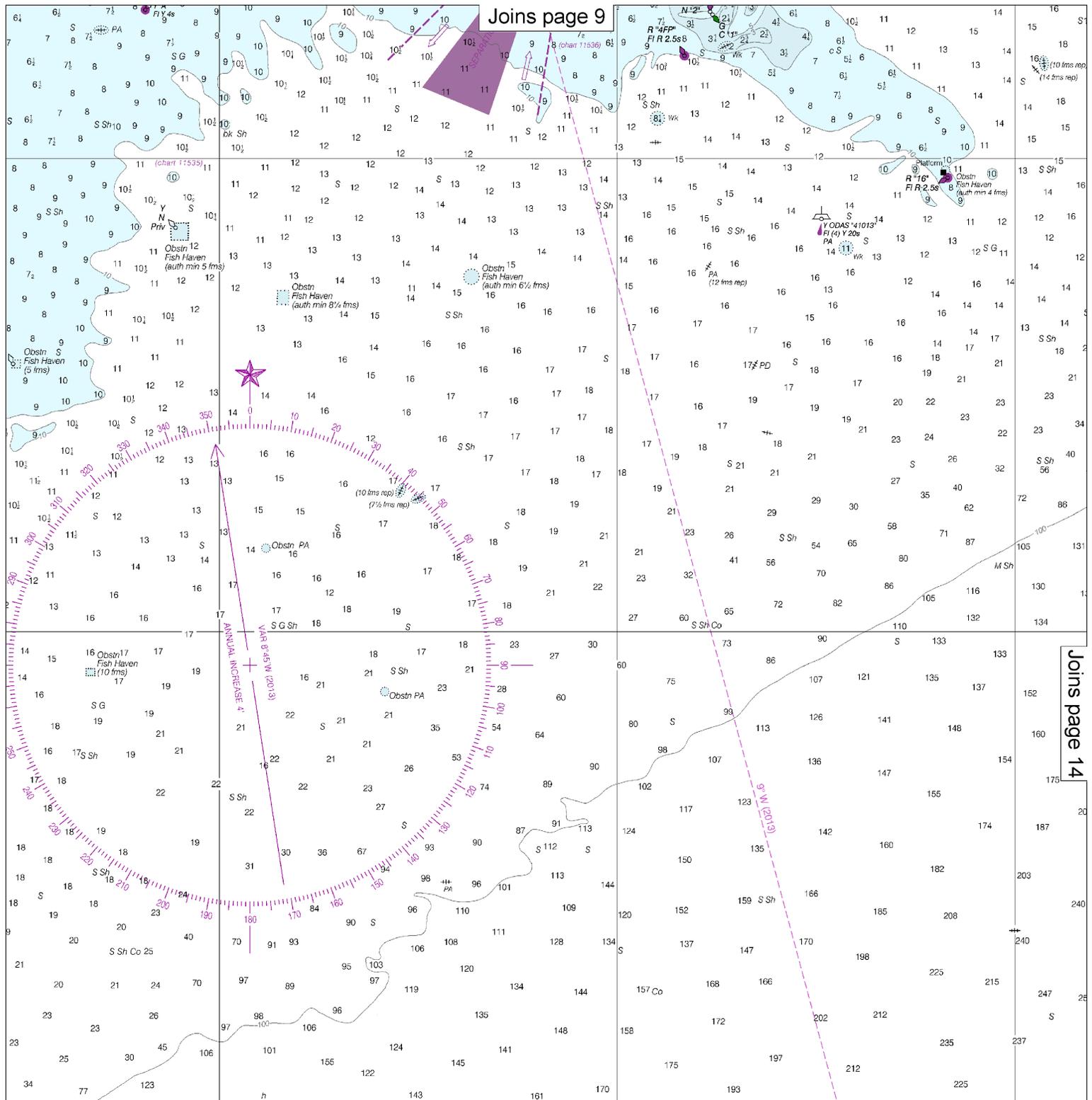
NoAA encourages users to submit inquiries, discrepancies or comments about this chart at <http://www.nauticalcharts.noaa.gov/staff/contact.htm>.

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Note: Chart grid lines are aligned with true north.

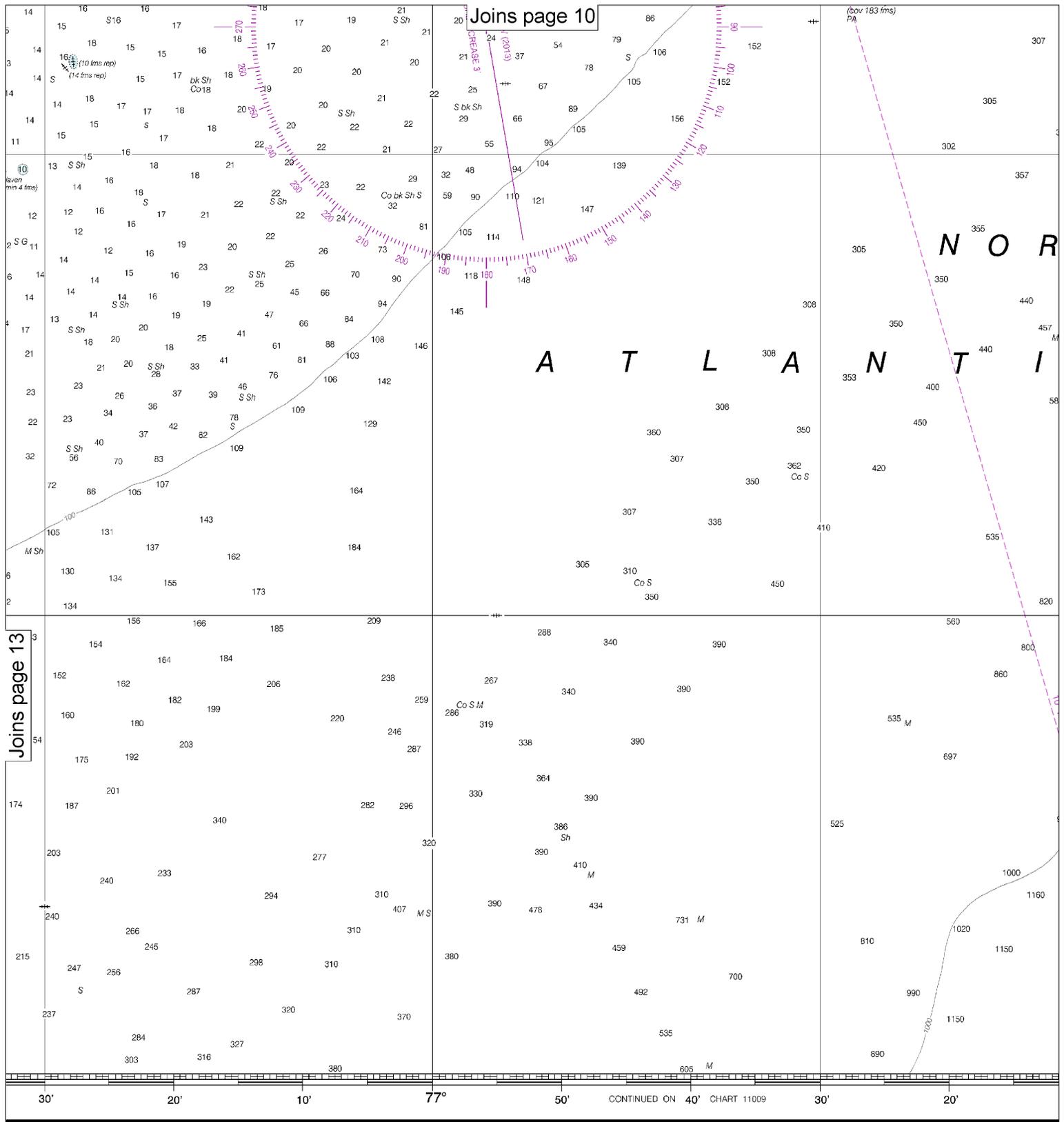
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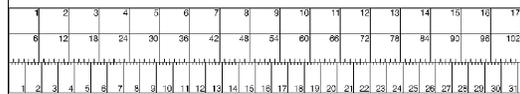
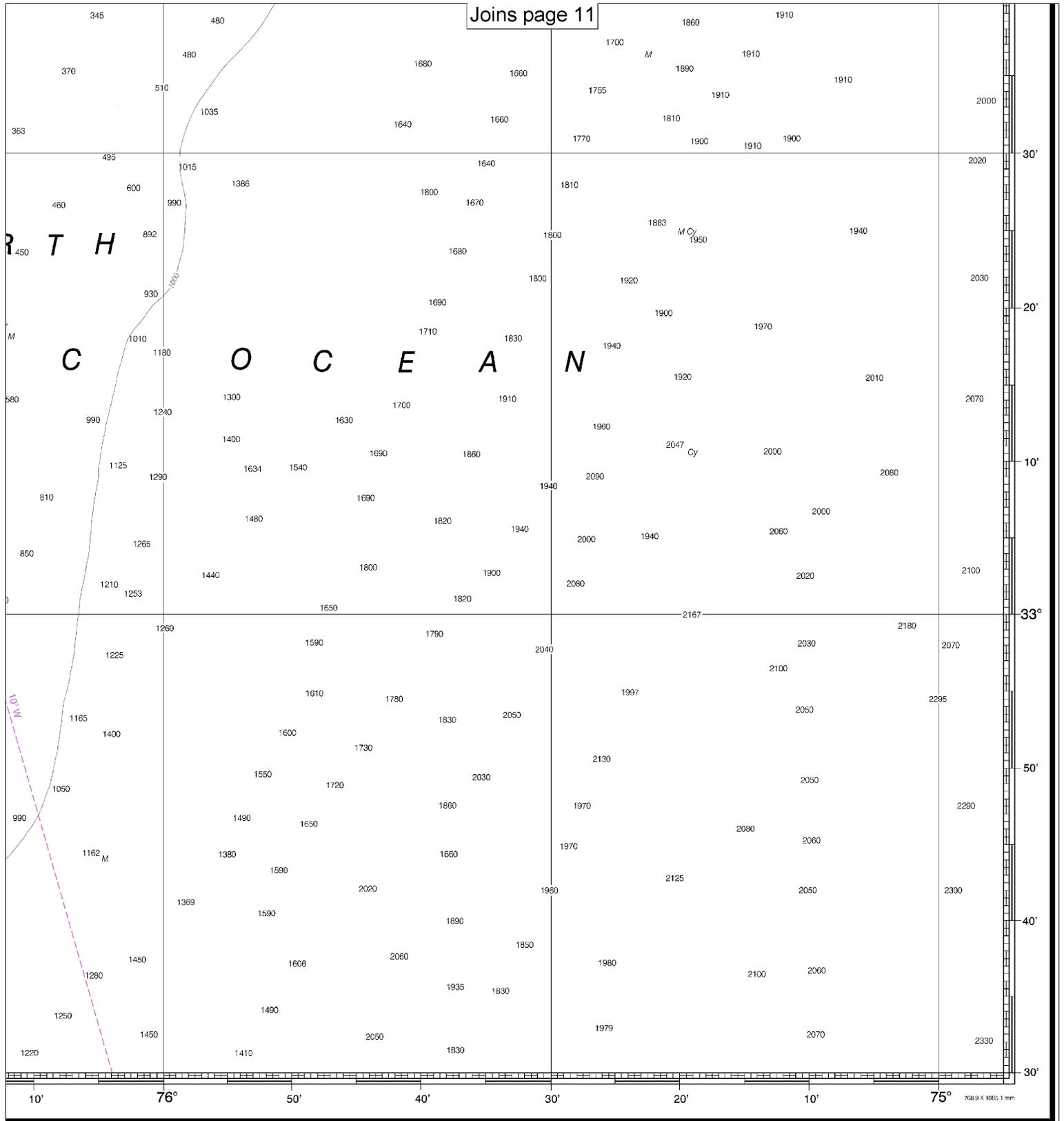


Published at Washington, D. C.
 U. S. DEPARTMENT OF COMMERCE
 NAUTIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE
 COAST SURVEY

SOUNDINGS IN FATHOMS

FATHOMS
FEET
METERS

Note: Chart grid lines are aligned with true north.



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EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

<http://www.nws.noaa.gov/nwr/>

Quick References

- Nautical chart related products and information — <http://www.nauticalcharts.noaa.gov>
- Interactive chart catalog — <http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml>
- Report a chart discrepancy — <http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx>
- Chart and chart related inquiries and comments — <http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs>
- Chart updates (LNM and NM corrections) — http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html
- Coast Pilot online — <http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm>
- Tides and Currents — <http://tidesandcurrents.noaa.gov>
- Marine Forecasts — <http://www.nws.noaa.gov/om/marine/home.htm>
- National Data Buoy Center — <http://www.ndbc.noaa.gov/>
- NowCoast web portal for coastal conditions — <http://www.nowcoast.noaa.gov/>
- National Weather Service — <http://www.weather.gov/>
- National Hurricane Center — <http://www.nhc.noaa.gov/>
- Pacific Tsunami Warning Center — <http://ptwc.weather.gov/>
- Contact Us — <http://www.nauticalcharts.noaa.gov/staff/contact.htm>



— For the latest news from Coast Survey, follow @NOAAcharts



This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.